

CHAPTER 12

THE INTERNATIONAL TRADE AND ENVIRONMENTAL REGIME AND THE SUSTAINABLE MANAGEMENT OF CANADIAN FORESTS

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Abstract: The paper explores the structure and impact of the international regime that governs forest management. We pay special attention to three components of the regime: (1) regional and international trade agreements and multilateral environmental agreements; (2) international criteria and indicator processes; and (3) international forest certification systems. The first two components represent subsystems that are molded and enforced by governments, while the third component represents largely a private regulatory system enforced by market behaviour. We show how these three components interact with each other and with the domestic regulatory system within Canada to directly affect sustainable forest management (SFM). We examine how international agreements and processes have introduced environmental issues into domestic policy-making, and assess whether there has been any conflict between the economic and environmental objectives of these agreements. We show that market access concerns have been and continue to be the primary drivers of changes in the regime even as rules designed to facilitate trade have been strengthened through limiting the discretion of countries to enact trade barriers. We conclude with some observations on what insights the Canadian experience offers to the larger debate about the impact of environmental outcomes on trade.

1. INTRODUCTION

Canada is a member and a signatory of numerous international and regional agreements that have or might have an impact on forest practices and on the benefits and costs that may accrue to the various stakeholders in the forest. Various trade agreements contain some measures that directly affect trade in forest products (e.g., the General Agreement on Tariffs and Trade (GATT), the North American Free Trade Agreement (NAFTA), the past Softwood Lumber Agreement) and indirectly affect forest practices (e.g., harvesting and silvicultural methods) and the environment. Various environmental agreements can serve to restrict forest practices or create incentives to change practices. Such agreements include the 1992 Convention on

Biological Diversity, the 1992 U.N. Framework Convention on Climate Change, and the 1997 Kyoto Protocol to the latter convention.

These agreements contain legal obligations that directly affect signatory governments. They may restrict actions governments may take or limit or curb the discretion of the government to adopt certain policies. These “hard law” obligations may also be supported by enforcement mechanisms and dispute resolution procedures, as is the case in the trade agreements to which Canada is a signatory.

Not all international institutions that impact forests have the power of “hard law”. International agreements may also articulate a common set of ideals or goals that countries will pursue, as is the case for many multilateral environmental agreements (MEA’s) such as the Convention on Biological Diversity and the UN Framework Convention on Climate Change (UNFCCC). These agreements may mould and energize highly influential processes through which international consensus is built and legitimized. For example, the International Dialogue on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (the Montreal Process), influences the policy debates within Canada that attempt to define Sustainable Forest Management (SFM). Together these agreements and processes create a “soft law” that can influence policy development within countries. These agreements may even require the development of implementation strategies that involve specific legal obligations, as is the case for the Kyoto Protocol. They may require countries to implement policies at the national level in order to meet national commitments. They may cause countries to pay greater attention to those issues raised within the agreements when developing their own policies to address the issue. Political pressure within the regime, exerted by other countries and international NGO’s, may also highlight particular issues raised in these agreements that also affect the development and implementation of national policies.

Another, no less important layer of the institutions that define the international regime affecting forest management, consists of certification initiatives backed by non-governmental institutions (NGOs). For example, the Forest Stewardship Council, backed by buyers’ groups and environmental non-government groups is having an increasing impact on forest practices around the world through its certification systems. Canada, with one of the largest forest estates in the world, receives especially close scrutiny.

This “international regime” is having an increasing influence on the management and the economic and environmental outputs of Canadian forests. In this paper, we 1) describe the three principal components of the international regime that affect forest management in Canada, 2) examine how these institutions interact with domestic policy-making as well as where they support one another, where they may be in conflict, and 3) show how these institutions have modified and affected firm behaviour and forest management within Canada.

2. THE INTERNATIONAL REGIME

2.1 Definition of International Regime

There exist a number of different definitions, but in general international regime describes the set of institutions that consist both of international organizations and agreements in which countries set mutual goals that govern the interaction between countries (Porter, Brown, & Chasek, 2000). These agreements may simply enunciate general principles and exhort countries to aspire towards those goals, or more concretely, provide a consultative framework and/or process for further discussion/negotiation and, at its fullest force, develop rules to achieve those objectives. These rules may contain general legal obligations for parties and can range in stringency, most importantly in the means and intensity of enforcement (such as trade restrictions and sanctions). These agreements may also include formal dispute resolution procedures. Participating countries may develop single-purpose organizations to support these agreements, such as the World Trade Organization (WTO), or may rely on existing international organizations (such as United Nations Environmental Programme (UNEP) or United Nations Commission on International Trade Law (UNCITRAL)). Membership in these agreements is voluntary, but there may be some negative consequences of being a non-party to an agreement (e.g. loss of legitimacy, reputation and exposure to sanctions from ENGOs). Generally speaking, those agreements resulting in specific legal obligations for signatories are known as “hard law”. More general agreements without specific obligations but which provide general statements of principles or objectives or create frameworks to address the problem are known as “soft law”. To date, most trade agreements have taken the form of hard law while most environmental agreements consist mainly of soft law. However, many of the framework agreements lead to ongoing processes that provide for discussion and articulation of the issues, and these can result in more specific obligations similar to those found in “hard law” agreements. In addition, there are efforts through voluntary approaches to labeling and certification to create private regulatory systems outside government processes.

2.2 The establishment and functioning of international regime

Clearly a wide range of factors can explain why countries may pursue particular sets of actions: these reasons would include political imperatives and pressures from domestic constituencies; past history; and cultural norms (Bernauer, 1995; Sprinz & Vaahoranta, 1994). Porter, Brown, and Chasek (2000) argue that there have been four traditional approaches to answering the questions of regime development: (i) the structural approach in which strong states define the rules of the game to their benefit; (ii) a game theoretic approach in which coalitions of states form and bargain over mutual benefits (or avoidance of costs); (iii) institutional bargaining in which nation states develop international institutions to act as intermediaries through which they can interact because they are fundamentally incapable of interacting directly; and (iv) epistemic communities in which international learning from scientific research establishes common values and goals that shape the evolution of the regime. They

claim that a common weakness of these approaches is the treatment of states as unitary agents and that not enough attention is paid as to why states develop coalitions to block regime formation or how these coalitions may reduce the performance of these regimes (also see Bernauer, 1995).

While economic models that focus on the benefits and costs that accrue to countries offer insight into the motives for cooperation (see, for example, Dasgupta, 1997), the political economy perspective supports the idea that relying only economic calculations is not sufficient when modeling the choice of trade policies. Treating countries as unitary actors cannot explain the choice of sub-optimal policies measured by sacrifices in the terms of trade (Zhou & Vertinsky, 2002). Instead, the presence of lobbies and other interest groups appears to be an important determinant of outcomes but cannot explain why sometime they may only achieve part of their desired goals (Levy, 2003). Part of the explanation may reside in the fact that beliefs play an important role in explaining outcomes as shown by new research in experimental economics. While the strict calculus of economic rationality suggests people will free ride if given the opportunity to voluntarily provide a public good or overexploit a resource, experimental games often show surprisingly strong results in which people voluntarily choose more cooperative outcomes than those predicted by economic theory. There is also empirical evidence to support the idea that voluntary efforts and moral suasion can be powerful organizing forces in the provision of public goods (Klein, 2002). Such outcomes, however, appear achievable only when there is a well-established system of rights and responsibilities and the effective enforcement of rights (Dasgupta, 1998). Other authors have noted that people's willingness to pay or engage in voluntary actions to improve the environment will increase if they adopt a more altruistic viewpoint encompassing a shared responsibility rather than considering only their economic self-interest (Nyborg, 2000). Therefore, norms and beliefs may explain in part the ways in which these agreements might work, especially those concerned more with "soft law" processes and objectives. In fact, Young (2002) suggests that there are two sharply divergent theories explaining why countries may cooperate: one is that they rationally choose to act collectively to avoid free-rider problems, while the other involves a view of shared norms and social responsibilities that motivate cooperation.

2.3 The impact of the international trade and environment regime

Figure 12.1 shows the framework used to assess the impact of the international regime upon Canadian forestry. In it, we consider the importance of economic factors (the distribution of costs and benefits) but also the role norms and values can play. We elaborate upon the interaction between national policies and international subsystems, how those linkages can affect forest product markets, and the resulting effect on firm behaviour. In the model, the international regime consists of a layer including international trade and environmental agreements, international criteria and indicator (C&I) processes, and certification initiatives. It is within this international layer that countries and the policies they develop interact. In some cases, countries may use the regime to try to directly influence the policies of other countries.

Countries may develop collective agreements or obligations that then require the development of national policies. These are then filtered through national and provincial policy-making processes. Different components of the international regime may constrain or shape these policy choices, and the policies that are adopted can affect forest product manufacturing, forest product markets, and forest practices and management. In the case of certification, international ENGO's attempt to tighten this system of public regulation by governments by creating a private regulatory system, acting directly to prescribe forest practices and management using their influence on forest product markets. These public and private channels of regulation together, then, link the international regime to the actual way in which Canadian forests are managed and utilized.

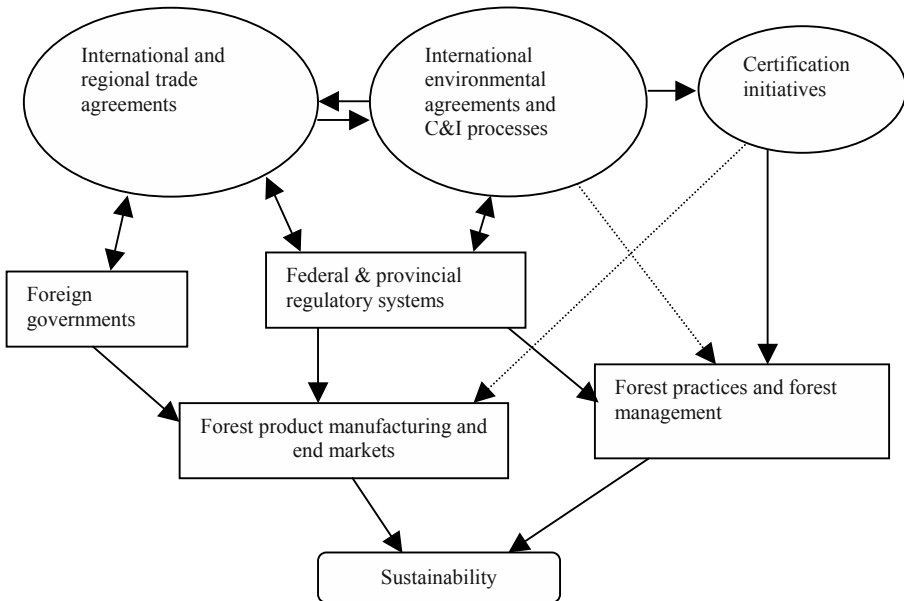


Figure 12.1. *A Conceptual Model*

The components of all these systems can reinforce or contradict one another across a number of dimensions. How conflict is resolved between these systems is equally important. The interaction of these systems may distort prices. International agreements may lead to trade liberalization that can deepen or create new markets. Trade liberalization can also place greater emphasis on differences in domestic policies between countries (Burfisher, Norman, and Schwarz, 2001). The emergence of new competitors may sharpen competitive pressures in export markets and lead to increased demand for trade protection where domestic industries were previously sheltered. Countries may adopt trade policies in response to these concerns. The effect of these policies may not be straightforward. Tariffs designed to reduce imports in one country may perversely lead to increases in harvesting rates in exporting

countries as firms attempt to maintain export revenues as net prices fall. Log export restrictions designed to prevent deforestation may instead hasten it by encouraging the conversion of forestland to other higher-valued uses. Differential tariffs or import restrictions may shift harvesting pressure from one region to another less able to accommodate the increased activity (that is either more environmentally sensitive and/or lacks the institutions to effectively manage or mitigate the environmental impacts associated with increased production). Certification may open new markets and reward environmentally preferred products or could potentially become a trade barrier if it is a condition of market access and thus devalues the resources and reduces the incentives for proper stewardship of them.

Governments may develop new regulations governing forest practices and management, or firms may adopt new harvesting practices in order to meet certification requirements. All of these can affect prices and costs in existing markets, as well as change the scope and nature of those markets. This, in turn, can affect what firms cut, where they cut, and when they cut. They can determine how the forest is managed, what it is managed for, and how decision-makers determine the location and intensity of forest activities. They can influence investment decisions and alter the long-run composition of the forest products industry and consequently of the forest. All of these decisions have ecological, social and economic consequences that affect the sustainability of forests.

The international regime does not exist in isolation. It arises from the efforts of national governments to respond to scientific and public opinion and issues raised by NGO's (where we use the term broadly to include industry associations as well as Environmental NGO's (ENGO's)).¹

Assessing the impact of the international regime upon Canadian forests has to take into account the federal structure of Canada and the fact that most decisions affecting natural resources are made at the provincial level within the Canadian system. Under the constitution, Canadian provinces enjoy a great deal of autonomy. Hoberg and Harrison (1993) note that the provinces have been quick to assert provincial jurisdiction in areas affecting natural resources, including environmental protection. Therefore, the Federal government has historically confined itself to a role in which it facilitates and coordinates policy development, while forest management policies are developed at the provincial level.² The Federal government, however, has primary responsibility for international trade and for negotiating MEA's but is reluctant to exercise its powers in forest-related trade issues unless provinces are in agreement.

2.4 Analyzing the Impact of Trade

In assessing the potential impact of trade, the analysis is often framed by the adoption of endpoints that either involve no trade whatsoever (autarky) or complete free trade. Where a country may have abundant resources, such as the forest resources found in Canada, the implications of either position can lead to unrealistic outcomes. Under autarky, there is no trade with other countries and unless there is sufficient domestic demand for the resource (perhaps even for alternative uses such as firewood) the resource may be devoid of market value. Forestland may then be converted to higher

valued uses, or is as often the case, converted to agricultural uses. At the other endpoint, unfettered free trade with no constraints whatsoever increases the size of markets for exporters, who can then realize higher values than if they were restricted to only meeting demand within their own country (through higher prices in world markets or taking advantage of any economies of scale that may exist). Under this scenario the full market value of the resource is realized.

Different trade rules can have different economic impacts, then, upon the nature of the markets in which the good is sold and the value of the resource. There may also be related impacts both upon national wealth and local communities that derive economic and other benefits from regional forest resources.

Governments establish policies that can influence trade for a number of different reasons. They may enact tariffs or other border restrictions to protect their domestic industry from harm caused by other countries' unfair trade practices, which may consist of subsidies or dumping. A government may establish trade measures to protect an infant industry that is unable to compete with more established firms until it climbs its learning curve or reaches its optimal size. Domestic policies can indirectly influence trade. Governments may enact standards and regulations designed to protect the health and safety of their citizens or address domestic environmental issues. These standards may affect traded goods if they are subject to such measures. Environmental considerations have traditionally not entered into trade policy other than the establishment of standards or regulations to protect the domestic health or safety of consumers (e.g. banning foods that contain toxic residues).³

The concerns over these policies acting as non-tariff barriers (or NTB's) arise because firms (and governments) may adopt trade and domestic policies designed to protect domestic industries. These may be in response to lobbying in which firms (or other groups) seek to enact barriers to obtain economic rents.⁴ Governments may simply seek to shelter domestic firms from more efficient foreign competitors.⁵ Governments may even deliberately pursue a strategic trade policy, taking advantage of the relative size of an industry and resulting market power to alter the terms of trade to the benefit of domestic producers or consumers.⁶

A number of authors have suggested that the use of non-tariff barriers has grown as average world tariffs have fallen (Barbier, 1996; Levy, 2003). Gandolfo (1998) suggests that these barriers offer more discretion and are less overt and that their use has grown for three principal reasons: (i) they permit countries to ostensibly comply with new trade rules which emphasize a reduction in tariffs while still offering protection to domestic industries; (ii) barriers implemented through such measures are easier to enact since they are less transparent and visible (than are tariffs or quantitative restrictions); and (iii) interest groups and politician find such measures more palatable again because such measures (and the costs they entail) are less apparent.⁷

3. THE INTERNATIONAL TRADE REGIME

The international trade regime consists of the array of international rules and agreements that govern the trade policies countries can develop. Generally the

international rules are designed to facilitate trade and reduce the ability of countries to establish trade barriers. What affects trade patterns is the resulting mosaic of tariffs and non-tariff barriers as well as the degree of security offered by the international trade regime in terms of protection from arbitrary and opportunistic measures by other countries.

Tariffs faced by Canadian forest product firms in foreign markets are generally low across most product categories with several noticeable exceptions (these are in selected product categories, such as plywood, and among developing countries). The main non-tariff measures Canadian firms face, principally health and safety standards, apply to solid wood products, primarily logs and lumber, and Canadian firms are not generally singled out for especial scrutiny in this regard (Schwab, 2002). There are concerns, however, that the development of certification may become a non-tariff barrier for forest products in general (New Zealand Forest Research Institute Limited, 1999; New Zealand Institute of Economic Research, 2000).

The development of market barriers (through tariff and non-tariff barriers) and opportunistic trade actions are the biggest threat facing exporters. The only available protection is through multilateral agreements that reduce the risk from these threats through two important components: (1) agreements that free trade and offer protection from arbitrary moves by importing countries and (2) dispute resolution mechanisms that allow enforcement.

Canada is a member of two important trade agreements that directly affect trade in forest products (the General Agreement on Tariffs and Trade (GATT) and NAFTA). One agreement, GATT, is international in scope, governing trade with most developed countries. The other, NAFTA, is a regional trade agreement that covers three-way trade between Canada, Mexico, and their most important customer, the US. These agreements contain three sets of rules that have a major impact on the operation of the forest sector. One set of rules permits countries to only apply protective measures to ensure fair competition and protection of their industries from sudden surges in imports⁸. These rules have been frequently used to justify protectionist measures against the Canadian forest products industry (see Nelson & Vertinsky 2004). The second set of rules permits countries to establish environmental measures designed to protect animal, human, and plant health. These are modified by a third set of rules that restrict the application of such rules where they do affect trade, requiring that the rules must be for legitimate reasons, scientifically justified, and chosen so as to be the least trade-restrictive as possible.⁹

In additions to these sets of rules, both agreements also contain dispute resolution procedures. Both utilize quasi-legal processes in which panels are struck to hear disputes; both are similar in that only parties to the agreements (i.e. member countries) can have any formal standing in the process; and both allow for an appeal process. They differ in the eligibility of who can serve on the panels as well as in the enforcement mechanism.¹⁰ As well, NAFTA contains a set of rules regarding the treatment of investments (Chapter 11) that are not found in GATT. Under Chapter 11, private parties from member states can sue host governments over government policies or actions that diminish or expropriate the value of their investment. Finally, the most recent GATT Agreement established a formal organization, the WTO that

monitors and enforces the trade rules under the agreement as well as facilitating ongoing discussion of modifying those rules. NAFTA does not have a similar organization (aside from a secretariat to administer the dispute resolution process) nor is there an institutionalised procedure in place to modify the agreement.

3.1 International Trade in Forest Products

Historically much of the analysis of forestry related issues and trade focused primarily on the environmental effects of the tropical timber trade and the impact of log export bans on forest products trade in the Pacific (Tomberlin, Buongiorno, & Brooks 1998). The main concern surrounding tropical forests has been deforestation and trade has been raised as a possible explanatory factor. Research results, however, suggest that institutional factors such as patterns of ownership, the strength of those rights (including customary rights), political stability, and government policies regarding other land use activities such as agriculture are more important in explaining deforestation than trade in such products (Southgate, Salazar-Canelos, Camacho-Saa, & Stewart, 2000; Deacon, 1995). More recently, there have been a series of studies looking at the impact of tariffs (and reductions in tariffs) on trade flow patterns.¹¹ Sedjo and Simpson (1999) consider the effect of further tariff liberalization (post-Uruguay round) and conclude that as the most significant reductions have already taken place, there would only be a small aggregate increase in forest products traded, and changes in production and consumption would also be small. However, there would be a change in the composition of trade, as more value added products will be traded, and increased trade from countries with significant plantations such as Chile and New Zealand will be realized.¹² There has been little investigation of the impacts of institutional arrangements on trade patterns in forest products. In one of the few studies that investigate this issue, Southgate et al. (2000) consider the actual effects of trade liberalization in Ecuador on the domestic forest products industry. They show that improved market access can theoretically lead to improved prices that would be expected to lead to better timber management and stewardship; however local market imperfections (oligopsonistic markets and weak institutions) prevent the benefits of higher timber prices from flowing through back to the landowners.

Some authors have suggested that there has been a proliferation of non-tariff measures affecting forest products, citing the application of sanitary and phytosanitary standards to imported logs and solid wood, and the development of performance standards that may discriminate against certain types (and hence suppliers) of wood (Bourke & Leitch, 2000; Barbier, 1996; and the NZ Institute of Economic Research, 2000)¹³. Sampson (2000, p. 66), however, states that “[o]f these measures, tariff escalation is believed to be the main source of trade restriction and distortion in this sector”.¹⁴

3.2 The Softwood Lumber Dispute

Despite the presence of a free trade agreement with US under which Canadian forest products can enter duty free, Canadian softwood lumber exports have for much of the

past quarter-century faced some kind of border restrictions entering the US. Nelson and Vertinsky (2004) provide a narrative describing the various rounds within the dispute and the motivation for US trade action. In general, US timber interests have been highly successful in capturing government and Congressional support to press for trade barriers. These restrictions have taken a number of different forms; these include province-specific export tax rates in which some regions have been exempted; the Softwood Lumber Agreement, under which firms received individual quotas and faced volume constraints on the amount of lumber they could ship to the U.S duty-free; and countervailing and antidumping duties today. All of these various border restrictions had an impact upon prices and the market and upon producers' decisions. Estimates of economic impact of these various restrictions generally show the same pattern: American consumers have been harmed while Canadian and US producers have benefited. These studies show that there are significant transfers: Wear and Lee (1993) found that American producers saw a gain of \$2.6 billion while American consumers saw a loss of \$3.8 billion (all in \$1982) during the period of the MOU, and Zhang (2001) estimated that the SLA had increased lumber prices by just under \$59/mbf in the US, with producers benefiting by \$7.7 billion and American consumers facing a loss of consumer surplus of \$12.5 billion (all in \$1997). Van Kooten (2002) estimates that the SLA benefited Canadian consumers by \$109 million annually and that producers on both sides of the borders benefited at the expense of US consumers.¹⁵

3.3 The Impacts of Trade

Given the export orientation of the Canadian industry, it is access and prices firms face in those markets that can have the most significant impact on firms' decisions. In Canada, changes in market access and prices have been significantly affected by the softwood lumber dispute. Various resolutions of the dispute have had different effects on the prices of softwood lumber, influencing firms manufacturing and harvesting decisions. Over time, border restrictions have shifted harvesting activities towards provinces originally not covered by the agreement, such as the Maritimes and the Prairie provinces, and towards species used to manufacture products not covered by the dispute, such as the utilization of aspen to produce OSB. There has also been an incentive to shift towards products not covered by the dispute. Under the border restrictions, value-added product such as roof trusses and pre-fabricated housing components were exempt. Firms that could had an incentive to produce and ship higher valued goods to the US, the most prominent example being Western Red Cedar lumber producers on the BC Coast. Within Canada, firms in regions that were not constrained by the SLA responded to the higher prices created in the US by the agreement by increasing lumber production. This led to an increase in demand for logs and increased harvest rates on private forestland in Eastern Canada. The higher harvest levels over this period has raised concerns about the ability of this sector, historically a locally important component of the timber supply, to contribute to future timber needs (Jaako Poyry Consulting, 2002).

More recently, the high duties have reduced net prices to Canadian exporters to the US, and this has led to significant improvements in productivity as Canadian mills have proven adept at cost cutting (Hamilton, 2004). Indeed, the US duties have had the effect of increasing the competitiveness of Canadian mills, as they have pursued economies of scale through rationalizing production by closing down smaller, uneconomic mills (this has been facilitated by mergers that permit companies more flexibility to redirect their log supply to more efficient mills). The increased efficiency was achieved largely through rationalization (plant closures) resulting in higher unemployment rates in several forestry-dependent communities.

4. THE INTERNATIONAL ENVIRONMENTAL REGIME

The international environmental regime consists of the rules countries have chosen to govern their interaction in addressing shared issues of environmental concern. Historically, countries pursued bilateral or regional agreements to cover issues of concern involving shared transboundary resources (Canadian examples include agreements with the US on migratory birds, shared watersheds with the US, and North Pacific fisheries with other countries). More recently, those concerns have broadened to encompass a broader set of environmental and social issues to larger, more global issues of pollution with an international dimension such as ozone depletion and global warming as well as the environmental and social consequences of economic growth. There is no one international agreement that deals directly with temperate forests and the complex set of environmental, economic and social issues they raise. Instead, an international environmental agreement may directly or indirectly address forestry-related issues depending upon the nature of the problem; for example, deforestation may be addressed as part of efforts to combat desertification. Therefore, it is necessary to identify those MEA's whose scope or objectives can encompass forestry-related issues and then assess to what extent they may influence Canadian forest management.¹⁶

Canada is a signatory to a number of such agreements of which several early MEA's have the potential to affect forest management. These include: the Convention on International Trade in Endangered Species (CITES), signed in 1973, designed to protect endangered and threatened species through restrictions on trade; the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention), signed in 1971, where the goals are to protect and facilitate the wise use of wetlands; and the International Tropical Timber Agreement (ITTA), signed in 1983, that addresses the use and conservation of tropical forests through developing consultative framework between consumers and producers and identify criteria for sustainable tropical forest management (Whiting, 2001).

To date, these early agreements have not had an impact upon Canadian forest management because they are either not applicable to Canadian forests or the issues addressed by these agreements have not arisen in Canada. For example, while CITES can affect trade in certain tree species that are considered at risk or endangered (e.g. tropical mahogany), as none of the commercially harvested species in Canada are considered endangered or threatened, it currently has no impact upon Canadian forest

management. Although Ramsar can affect forest management by encouraging national policies that take into account the importance of forested wetlands for waterfowl habitat, its focus to date has been on the individual selection and designation of protected sites in Canada, some of which happen to lie in forested areas. The ITTA, while it does not directly address Canadian forest management or practices because of its focus on tropical forests, does provide a potential model for other international processes (both in its attempts to bring together ENGO's and governments, along with consumers and industry groups, and the attention it pays to using C&I to measure sustainable forest management).

More recently, Canada has made commitments under several international processes and new MEA's that can potentially have a more direct impact on forest management. Many of these were only initiated in the past decade and a half and have come out of a series of international discussions that started with the Report of the Brundtland Commission on the Environment and Development (Brundtland, 1987).¹⁷ Indeed, the concept of "sustainable development" gained its modern context from the Brundtland Commission and it was from that beginning, and the recognition that resources must be managed more carefully, that the term "sustainable forest management" emerged. The Commission also led to the United Nations Conference on Environment and Development (UNCED) in Rio in 1992, also known as the Earth Summit, where numerous countries, including Canada, adopted several convention documents of which the two most important agreements for Canada's forests were the UN Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). At the same time, however, participants were unable to achieve one of the major goals of the summit, a consensus on how to manage the world's forests.

Despite the failure to achieve an international forestry agreement, however, among the outcomes of the summit were the Rio Declaration; Agenda 21; and Statement of Forest Principles. All of these consensus documents contained passages that were directly related to the future management of forests throughout the world. Agenda 21 specifically called for the formulation of scientifically sound criteria and guidelines for the management, conservation and sustainable development of all forest types. As a result, more than 140 countries became involved in the development of eight different, yet similar, sets of international "Criteria and Indicators of Sustainable Forest Management" during the mid-1990's. One such set was developed through the "Montreal Process" which involved the twelve member countries that are home to the temperate and boreal forests outside of Europe.¹⁸ The Montreal Process influences the policy debates within Canada that attempt to define Sustainable Forest Management (SFM). In addition, negotiations to establish an international forest convention commenced at UNCED, and continue to this day through the UN Forum on Forests (UNFF).

Of the MEA's that address forestry-related issues, only two to date have had some direct impact on forest management and use within Canada - the Convention on Biological Diversity (CBD) and the Kyoto Protocol. At the same time, ongoing efforts through the Montreal Process and the UNFF also have an impact in that they provide legitimacy for ENGO's demands for domestic legislation regarding the need

to protect biodiversity and other environmental values and can also help frame the issues as perceived by both the public and policy-makers. We can identify several areas where there have been (or will likely be) specific changes in provincial policy attributed to these agreements and associated with these processes. We first consider the CBD.

4.1 The Impact of the CBD

The Convention articulates several important objectives. These include the conservation in situ of biodiversity through the establishment of parks and protected areas; the promotion of the idea of sustainable use incorporating the conservation of resources while pursuing economic development; and the equitable sharing of resources with local communities (including indigenous communities). The CBD is generally aspirational in nature, urging countries to recognize the importance of biodiversity and to develop national strategies. It encourages countries to develop procedures to assess the environmental impacts of proposed development, gather information about the flora and fauna found within the country, and monitor biodiversity. It does not contain any general prescriptions or legal obligations, and it does not provide significant financial support (despite calling for significant financial expenditures for developing countries to develop the capacity to meet their commitments) (Whiting, 2001).

In response to commitments made under the CBD, Canada has formulated a national biodiversity strategy (Canadian Forest Service, 2002), as have some provinces.¹⁹ An important part of the strategy involved a national legislation to protect endangered species along with reporting on biodiversity in different jurisdictions. After reaching a federal-provincial accord in 1996, which committed the provinces and Federal government to introduce complementary legislation, Canada recently enacted the Species at Risk Act (SARA). The Act provides a mechanism for listing endangered species and does not permit killing, harm, or the destruction of their habitat (narrowly written as dwelling places such as nests, dens). Under the Act, the Federal government has lead authority on federal land while provincial governments have the lead role on provincial lands. While provinces retain the option to list their own species they consider threatened or endangered and exercise their provincial laws, the Federal government has the authority to act if provinces do not take sufficient actions to protect federally listed species. In terms of forest management activities, this means that provinces will need to take into account the effect of forest activities on listed species at all levels and may be required to prepare species recovery plans. At the very least, provinces will have to be able to demonstrate that current forest management policies will not threaten specific species or hamper their recovery.

4.2 The Impact of Kyoto

Potentially the most important MEA in terms of leading to direct changes in forest management policies is the UNFCCC and the Kyoto Protocol. The 1992 UNFCCC

identified greenhouse gas emissions and climate change as a source of global concern and the 1997 Kyoto Protocol established several key approaches to address the concern that are relevant to forest management. First, under the Kyoto Protocol, industrialized countries assumed binding targets (upon ratification by individual countries and entry-into-force of the Protocol) and committed themselves to establishing a series of rules over how to account for sources and sinks of carbon. The Kyoto Protocol identified forests as both a potential source of carbon emissions as well a potential sink of carbon (i.e. carbon sequestration). This had several important effects. A set of accounting rules have been developed that identify how carbon sources and sinks are to be tabulated. There are international rules spelling out how afforestation and reforestation (creation of new forest), deforestation (permanent loss of forest) and forest management are treated under the system of national greenhouse gas emissions accounting. Canada has a specific cap permitting it to use forest management as a carbon sink up to a predetermined level. Second, the Protocol allowed for the development of an international emission trading systems in which countries can elect to participate. Canada has indicated it will develop a domestic trading system that will be linked to the international system, and is exploring how sequestration and emission reductions from forest carbon projects can be traded (as offset credits) in the domestic emissions trading system.

This gives a potential value to carbon stored in the forest. The value of this carbon depends upon a number of factors. It will depend in large part upon the rules set at the international level and national level (countries have the ability to develop their own national trading systems). Proposed rules could change the relative economics of harvesting from natural forests versus plantations (i.e. afforestation/reforestation) depending upon the opportunity cost of carbon (the forgone gains from letting existing forests sequester additional carbon) versus the economic return from harvesting.

Within Canada, the Federal government has proposed that pulp and paper mills would be included within a domestic trading system that sets annual caps on emissions of large companies. Other smaller forest product manufacturing facilities (i.e. with less greenhouse gas emissions) will not be given caps. Annual allocation of emission permits to pulp and paper mills, up to the level of their cap, is expected to be free and based on targeted emissions intensity. The allocation of emission permits can clearly have an impact on firms' costs and revenues. Firms, if constrained, will either need to purchase additional permits or offset credits, or undertake internal emission reductions, or may incur financial penalties depending upon the stringency of the cap. If they reduce greenhouse emissions below their cap they will have excess permits to sell.

Canada also faces choices over determining what will count as managed forest and whether to account for forest management in its Kyoto accounting. Because there is a risk that the managed forest can be a source of emissions, due to fires and insect infestations, Canada also must decide how best to manage that risk, for example through changes in forest protection policies.

Canada's fundamental choice is whether it wants to include forest management in its Kyoto accounting. Forest management is a potential source of carbon credits, but if

included Canada must also tabulate the debits arising from forest management activities and harvesting, as well as natural disturbances. If it does include forest management, then management of carbon within the managed forest would be included within the domestic trading system. Key difficulties for implementation of a forest carbon trading system are the determination of appropriate methodologies for establishing project-specific baselines, and handling permanence (e.g. who assumes the risk that credits issued for forest carbon projects are lost when the forest is burned). It is clear that buyers are likely to have little interest in purchasing forest carbon credits if they have to assume the risk, and it is likely that the risk will be shifted onto the sellers or perhaps fixed by the rules employed by the government.

In Canada, the Federal government has assumed responsibility for Kyoto and makes the policy decisions on Kyoto in its areas of jurisdiction. Yet much of the decisions, especially those over land use and forest management, rest with the provinces. Ideally, the federal government hopes to implement these rules with provincial support. Many of the decisions to be made may encourage the provinces to develop policies on aspects of forest carbon. For example, it is still not clear how ownership of carbon credits from a project on Crown land would be established (especially through a baseline approach in which the amount sequestered depends upon actions taken, most likely by a company).

The long-run consequences of these decisions are uncertain. It is still unclear as to whether or not Canadian managed forests are a source or sink for carbon. There are concerns about the permanence of carbon and how it will be treated under the trading system rules, which could reduce the value of carbon and hence interest in forest carbon. Uncertainty about future changes in forest carbon stocks may lead to a decision to exclude forest management from Canada's Kyoto accounting, and hence from a domestic trading system.

Clearly, however, those forest product firms operating in a carbon-constrained world are likely to see an impact in their costs. This, in turn, can lead to changes in their relative competitiveness and this may lead to changes in what firms produce and where they produce it. Firms might face an incentive to either change their product mix (to goods that are less GHG intensive or not covered by the trading system) or shift production facilities to a country that isn't subject to such restrictions (the US is currently not participating in Kyoto). Furthermore, regardless of whether or not carbon is included in Kyoto's accounting, it is likely to become an additional consideration in forest management planning and regulation.

4.3 International Efforts to Develop a Forest Convention

Despite the failure of UNCED to develop a forest convention, it sparked subsequent efforts by several countries (most notably Canada and Malaysia) to continue the dialogue that resulted in a new process through the formation of the Intergovernmental Panel on Forests (IPF) in 1995. Organized through the Commission on Sustainable Development (CSD) at the UN, the IPF had a two-year mandate to develop recommendations over a complex series of issues relating to the development of criteria and indicators for sustainable forest management and trade

and environment as they relate to forest products (Humphreys, 2003). However, while a number of proposals were developed, many of these involved a high level of generality and did not specify actions or result in any commitments. Participants were unable to reach a consensus on any of the more difficult issues involving trade, the transfer of financial resources and technology, or the development of a forest convention (Porter et al., 2000). Subsequently the UN established the Intergovernmental Forum on Forests (IFF) with a three-year mandate organized within the CSD again. The IFF concluded without making significant progress in implementing any of the recommendations of the IPF and was unable to develop any further a consensus towards reaching an international convention (one of Canada's key objectives in participating in the process). Upon the expiration of the IFF, the UN Forum on Forests (UNFF) was established with a five-year mandate to conclude in 2005. One of the principal goals of the UNFF is to develop recommendations for a framework legal convention, although current expectations are low as to whether any substantial progress will be made in this regard as participants appear to be unable to resolve the issues that plagued the earlier processes (Humphreys, 2003).

4.4 The Impact of the Montreal Process and C&I initiatives

We noted earlier that the Rio summit highlighted the importance of identifying "sustainable forest management" and helped initiate the Montreal Process. A consensus on a precise definition of the term "sustainable forest management" has eluded most institutions concerned with forest policy, although in Canada the Canadian Council of Forest Ministers (CCFM) clearly stated that the goal of sustainable forest management was: "To maintain and enhance the long-term health of our ecosystems for the benefit of all living things both nationally and globally while providing environmental, economic, social and cultural opportunities for the benefit of present and future generations". In order to evaluate Canada's progress in reaching that goal, CCFM developed a Canadian national set of Criteria and Indicators (C&I) in 1995. In turn, the provinces are developing specific sets of C&I in order to report on the "State of the Forest" to Canadians. All of these processes are nested within each other. However there are few standards and methodologies for data collection and reporting, which has hampered the synthesis of this information into coherent reports (Montreal Process, 2003).²⁰

The Federal government has played a role in both financing research and supporting efforts to coordinate the development of SFM while also representing Canada's positions in international negotiations. The Canadian Council of Forest Ministers (CCFM), a group including the provincial and federal ministers responsible for forestry, has developed the National Forest Strategy (NFS), a strategic framework intended to guide the development of national and provincial policies. In recent years, the framework has been modified to consider environmental and social values as well as involving a wider spectrum of stakeholders. The Council has developed a national Forest Accord spelling out a set of goals, commitments, beliefs, and action plans for Canada's forests (Duinker, Bull, & Shindler, 2003). One of the primary goals of the

CCFM has been the development of the criteria and indicators of sustainable forest management in a Canadian context.

Other national policies that have had an impact include strategies initiated by the federal government around sustainable development, such as the National Roundtable on the Economy and the Environment, which led to some short-term provincial initiatives resulting in large scale land use planning exercises (Dwivedi, Kyba, Stoeet & Tiessen, 2001). A number of different provinces (British Columbia, Ontario, Quebec and Saskatchewan) have adopted new forestry legislation that incorporates the principles of sustainable forest management.

4.5 Changes in Forest Management to Address Ecological Concerns

The CBD and various international processes such as the UNFF and Montreal Process generally call for greater emphasis paid to ecological issues and the development of policies to protect and conserve biodiversity. Provinces have responded to a number of different environmental issues within the scope of addressing biodiversity, including the establishment of protected areas. The Federal government has developed legislation for endangered species

One of the goals of the Bruntland Commission was to increase the amount of protected areas found within political jurisdictions to 12%.²¹ The idea of protected areas is supported in certification systems and used as one of the major indicators for the ecological criteria. In four of the major forested provinces of Canada, British Columbia, Alberta, Ontario and Quebec, the amount of protected area has grown significantly and all provinces are developing specific policies around protected areas. In some cases, such as in Saskatchewan, provinces have developed an explicit biodiversity strategy (Natural Resources Canada, 2003). Related policies have also been developed around maintaining old growth forest (a fixed percentage of the stands to be found in older age classes), often couched in the need to maintain biodiversity.

Thus, while it has been difficult to develop operational definitions of biodiversity (that can be implemented at the ground level), the idea has been incorporated into new forest management policies in Canada that set aside protected areas and require the retention of wildlife habitat as well as through standards developed for different certification systems that highlight the need to protect and conserve ecological values.

Provinces are also experimenting with new planning processes that incorporate environmental objectives or consider the environmental impact of forest operations.²² There is also the development of long-term plans (on the order of 100 year or more planning horizons) to simulate the effect of current policies to assess their impact on the future forest profiles (Duinker *et al.*, 2003). There has been a shift in emphasis stressing long-run forest profiles, framed in terms of sustaining forest values (a significant shift from historical perspectives that assumed falldown as a sign of good forest planning).

4.6 Changes in Forest Management to Address Social Concerns

These international processes also call for greater transparency and more public involvement in decision-making. Again, there has been a significant increase in public involvement in forest planning across Canada. Public participation, especially at the local level, is also strongly endorsed by certification systems, reinforcing the need for public input to local management decisions.

Finally, we note that greater attention is being paid to Aboriginal issues in Canadian forest management. Much of this is being driven by efforts at the international level, although at this level efforts are weaker and less organized (Bombay, 2004).²³ While local resource sharing and equity underpin some of the Forest Principles of Agenda 21 and the CBD, this idea is also being driven strongly by FSC certification.²⁴ There has been a rapid increase in the amount of partnerships, forest tenures, and other attempts to involve First Nations communities across Canada (NAFA, 2003; NAFA-IOG, 2000). Here too the Federal government plays a role through its responsibility for aboriginal issues, including the development of forest management plans for forested reserve lands, and it is evident that aboriginal participation in forest management and the forest industry is expected to grow.²⁵ One of the main areas of interest is in greater sharing in the economic benefits; this may drive changes to existing tenure systems to either accommodate new entrants (aboriginal communities as either new license holders) or new methods of collaboration between aboriginal communities and government and industry.

4.7 Industry Responses to Addressing Environmental and Social Concerns

At the same time as governments have made efforts to address a broader range of environmental and social values, similar efforts are underway in industry to promote more environmentally and socially friendly practices. UNCED also highlighted the idea of sustainable development, first raised in the Brundtland Report, and voluntary self-reporting by companies on social performance is on the rise (under the term Corporate Social Responsibility).²⁶ An important component of the reports include an assessment of the environmental impacts from their operations, including greenhouse gas emissions, and while there exists skepticism, even some critics acknowledge that by making managers pay attention to these measures, one ensures they will be paying attention to the issues (Cortese, 2002).

5. FORESTRY RELATED CERTIFICATION PROCESSES

There has been a growing trend in the development and use of voluntary approaches in which firms make commitments to address environmental problems (OECD, 1999). These approaches have been devised by a number of different groups; NGO's, governments, and industry associations, and have been used in pollution abatement and emissions reductions, development of best practices, and eco-labeling. Within forestry, this approach has been most strongly manifested through the development of certification and the use of market governance mechanisms. Certification is a voluntary activity that requires that an independent audit be carried out by an

accredited third party on forest management systems and or forest management practices. It offers another way in which international consumers can make their voices heard and directly affects forest practices by potentially creating new markets for forest products produced in a sustainable manner. Through providing information, it offers the means by which a private regulatory system can monitor and enforce environmental performance.

In a separate set of processes, a number of “certification” schemes have been developed and are now being implemented within Canada. Among them are: ISO 14000 EMS registration; Canadian Standards Association National Certification (CSA); ForestCare in Alberta; the Sustainable Forestry Initiative (SFI) that was started in the U.S. (for which Canadian companies are eligible); and the international Forest Stewardship Council certification process (FSC).

In Canada over 147 million hectares (if ISO is included) have been certified by one of the above schemes, representing about 123.3 million m³ of the annual allowable cut in 2003 as shown in Table 12.1 (Abusow, 2003). Most operations have chosen the ISO scheme (although it certifies management systems, not areas directly as do the other three systems operating in Canada).

Table 12.1. *Certified Forest land in Canada, by System in hectares, 2000-2003*

Year	FSC	CSA	SFI	ISO*
2000	21,000	480,000	n.m.	15,390,000
2001	36,000	5,000,000	4,000,000	44,000,000
2002	973,856	8,820,000	8,350,000	107,785,000
2003	4,211,907	28,405,000	25,775,550	127,819,550

*In ISO the company is certified not the land and the area reported reflects land managed by the company. Note that an area may be certified under more than one system and areas are not additive.

Sources: Abusow, (2003)

Customers have yet to express a clear preference for one system over another (or even for certification in general). Yet certification has clearly become an important component of forest management practices in Canada; it has grown rapidly and indeed appears to have become a de facto requirement within the industry. All members of Canada’s largest industry association are required to be certified under an independent third party system as a condition of membership by 2006 (FPAC, 2004) and Ontario and New Brunswick will also require major licensees to be certified in the next three to four years (OMNR, 2004 and New Brunswick Department of Natural Resources). As well, a number of large retailers have indicated that they will require their suppliers to have certification in place over the next few years (examples include retailers such as Home Depot, Lowes, IKEA, and others). FSC has the clear support of the ENGO’s, but has also shown the slowest growth of the four major systems in work in Canada. While FSC, CSA, and SFI all require third party verification of external standards, those standards under the FSC are more focused on performance while the standards under the latter two systems are more oriented towards processes.

ISO focuses on continuous improvement and the development of management systems, rather than requiring specific practices on the ground.

The FSC has certified primarily small-scale operations and private land in Canada. Proportionally very little FSC certified operations are found in BC, which accounts for over one-third of the harvest in Canada and has also been the focus of intense environmental scrutiny over the past two decades. Most of the certification in BC has taken place under the ISO and other two domestic systems. FSC has had difficulty in developing regional standards in several regions, again most noticeably in BC. The difficulties appear to lie in developing a consensus by all stakeholders as to what standards are appropriate. This difficulty is not only at the regional level, but also developing a consensus as to what extent regionally developed standards should be accepted at the international level or further modified (McDermott & Hoberg, 2003).²⁷ Indeed they suggest that this difficulty in obtaining a consensus in highly politicized environments explains some of the slow pace of FSC certification in Canada. Cashore *et al.* (forthcoming) find that companies prefer local substitutes (in this case SFI and CSA) because they offer more flexibility relative to the more stringent and non-discretionary standards set by the FSC.

Certification attempts to change the economic incentives facing firms by creating markets for environmental goods in which consumers will be willing to pay a premium. The expected premium is important because there are higher costs associated with certification. These include changes in management practices that reduce timber supply from a given area (i.e. shifting to variable retention in which a portion of the timber stand is left unharvested, withdrawing areas from operations) and lead to increased timber supply costs through greater operational restrictions (greater investments in stream crossings, road construction, and in harvesting equipment that can be used on more sensitive soils). In addition, there are additional costs associated with certification (i.e. auditing, increases in planning and monitoring costs associated with meeting a broader range of environmental and social objectives). To date, however, such premium has failed to materialize. Premiums for wood products certified by the Forest Stewardship Council (FSC) are generally small or nonexistent and do not cover the added costs of certification (Baldwin, 2001; Kim & Carlton, 2001; Kiekens, 2000).

Despite the lack of such premium, however, firms have been seeking certification with the anticipation of gaining market share, or at least not losing market share (Vertinsky & Zhou, 2000; Bass, 1997a & 1997b; Forsyth, 1998). ENGO's have been organizing various buyers groups that are indicating that in the future they will be looking to purchase and sell only products that come from sustainably managed forests, and Canadian forest sector firms have sought certification in large part due to concerns over market access (Raunetsal, Juslin, Hansen, & Forsyth, 2002). If these Buyers' Groups lean towards one particular certification scheme over the others, they could be establishing a non-tariff trade barrier, beyond the control of the government. Cashore *et al.* (2004) investigate whether firms adopt a particular certification system as a way to lessen external pressure. They find it is significant in explaining the choice of ISO but not the other system chosen (either FSC or competing domestic systems within Canada, the US, and Germany) and that to date market access or the

threat of market actions do not appear to be significant in explaining the adoption of a particular certification system.

6. INTERACTION WITHIN THE REGIME

We now consider how the three components we have identified within the international regime interact with one another. We examine the potential links between trade and the environment in the regime and consider how these have also influenced policy development within Canada.

6.1 Assessing the Environmental Impact of Trade

The effect of trade on the environment was originally explored in the context of trade models in which the environmental effects depended upon how the economic-environmental interaction was modeled (Pearson, 2000). Generally, these models suggest that the larger gains from trade typically outweigh the losses associated from increased pollution (see, for example, Grafton, Adamowicz, Dupont, Nelson, Hill & Renzetti, 2003). More recently, interest in the effects of trade upon the environment has moved toward considering the implication of trade patterns and how trade policies may affect environmental resources.

Trade theorists have generally followed the same approach of viewing trade as “all or nothing” in determining the environmental impacts of changes in trade policies. Under this approach, economic growth leads to increased incomes that in turn lead to an increased demand for environmental improvements (this hypothesis is otherwise known as the Environmental Kuznets Curve). Therefore, trade policies that facilitate trade result in increased growth and national wealth and benefit environmental resources.²⁸ Several authors, however, have raised a number of different arguments under which trade policies designed to facilitate trade could lead to environmental degradation and harm (see, for example, Esty & Mendelsohn, 1998; Esty & Gerardin, 1998; and Sizer, Downes & Kaimowitz, 1999). This may happen for several reasons. It may be the case that increased trade results in overexploitation of the traded good (where it is assumed institutions are too weak to prevent irresponsible resource use) or countries ignore environmental damage linked to increased use of the resource. Another is the case that domestic environmental regulations may affect the competitiveness of domestic industries. Differences in environmental standards can potentially become a source of competitive advantage in trade. Therefore, countries may engage in a “race towards the bottom” in which they lower their environmental standards (or *roll back*) when trade is liberalized in an attempt to maintain the competitiveness of their domestic industries, or dirty industries will relocate to countries with laxer environmental standards (the *pollution haven* effect). A related argument is that of a *regulatory chill*—even if countries do not lower their standards, the prospect of reduced competitiveness is sufficient to preclude or limit the willingness of countries to adopt higher standards than they would in the absence of such trade. Therefore, trade policies need to be developed to take this effect into account to prevent this happening.

Neumayer (2001) suggests that the typical analyses of trade, in which economists focus on the overall welfare improvements from liberalizing trade, ignore the possibility of localized effects of environmental degradation, while NGO's ignore the beneficial effect of improved economic opportunities. In a recent survey of theoretical models and empirical work on the impact of trade on the environment, Copeland and Taylor (2003) investigate this debate and come to the conclusion that there is a strong relationship between increased incomes and better environmental quality, and find little evidence to date to suggest that there has been a strong evidence of a pollution haven effect at work. They argue that this suggests that trade policies should not be used to achieve environmental ends, since the most likely outcome of trade measures aimed at improving the environment in other countries will be to either reduce resource values or weaken property rights in those countries, potentially leading to worse environmental outcomes.

More realistic analyses of how trade and the environment interact involve understanding the multi-dimensional nature of the international regime in which a number of different systems simultaneously operate. The influence of trade upon the environment does not move in just one direction. It may also be the case that economic concerns drive the development of environmental policies, and that environmental policies influence trade.

6.2 Why National Environmental Policies May Affect Trade

Governments may respond to environmental concerns through national measures that affect trade. Governments can respond directly to concerns over resource use and associated environmental impacts related to trade. Countries may then adopt policies to rectify or prevent environmental harm or degradation associated with trade including restrictions on imports (such as endangered species), export bans, or other measures designed to mitigate environmental damage. Such measures may involve national regulation, or may involve measures addressed at environmental harm taking place outside the country.

DeSombre (2000) raises the possibility that instead of a "race for the bottom" dynamics, in which trade concerns lead to weaker domestic environmental regulation, the opposite may occur where concerns over the impact of increasingly stringent domestic environmental regulations on competitiveness may spur countries to establish similar international policies and standards through MEA's in other countries. DeSombre discusses the internationalization of US domestic environmental laws, arguing that when industry and environmental group's interests are aligned in that both will benefit from the adoption by other states of US policies that the US will push hardest to turn domestic policies into international policies. DeSombre argues that the US has two main tools at its disposal, multilateral diplomacy and the threat of market power through restricting access to its market, and that the ultimate success of the US effort depends upon other countries' reliance on US markets. Countries more exposed to the threat of US actions are more likely to adopt agreements that incorporate US policies. She examines endangered species, ozone and whaling, and concludes that the overall success of the internationalization effort will depend upon

the nature of the coalition and to what extent the domestic industry benefits from the exclusion of the good.²⁹

Countries may also decide to address these environmental issues collectively through MEA's. In this case, one of the fundamental problems in tackling international environmental issues is not only obtaining commitments but also in ensuring effective performance. Developing a consensus is a difficult task as can be seen from the difficulty in developing a forest convention. The difficulties include establishing who bears the burdens of the costs, whether or not countries may be able to credibly commit to cost-sharing mechanisms or financial transfers, and the problems in measuring the environmental benefits (which provide the motivation for action). While countries are willing to take efforts to address these issues, they are reluctant to yield any of their sovereignty over their domestic affairs, and obtaining compliance can be a difficult task. Therefore, negotiators for environmental agreements are increasingly considering the use of trade restrictions as one of the instruments that can be used to help achieve the objectives of the agreement (Stavins & Barrett, 2002).

There are three principal reasons as to why trade measures may be employed: to deter free riding (both among members and by parties outside the agreement); to prevent leakages (for example, the agreement shifting the source of emissions to a non-member); and to directly control trade in the resource in question (Neumayer, 2001). Indeed, several MEA's (CITES covering trade in endangered species, as well as the Montreal Protocol governing ozone depletion and the Basel Convention on hazardous waste) have incorporated trade restrictions. These include clauses that restrict the ability of parties to the agreement to trade with non-members as well as require monitoring of trade in goods covered the MEA. The Montreal Protocol in particular has been regarded as the most successful MEA to date (in terms of achieving reductions in ozone-depleting chemicals), and the trade measures incorporated in the agreement (which restrict trade with non-members) are thought to have contributed significantly to its success (Victor, Rautsiala, & Skolnikoff, 1998).³⁰

Jackson (2001) has identified four broad categories within which trade and environment conflicts might arise within the international regime: (1) national measures taken to protect the environment; (2) unilateral national measures taken to protect the environment outside of national jurisdiction; (3) international environmental agreements (MEA's) and the agreements under the WTO; and (4) process/product distinctions.³¹ ENGO's strongly believe that the current trade regime does not take environmental values sufficiently into account and that the existing trade regime (primarily WTO rules designed to reduce countries discretion to erect trade barriers) might actually prevent countries from taking actions to improve the environment and that trade restrictions may be required in order to achieve environmental objectives (Neumayer, 2001). Indeed, some ENGO's suggest that restricting market access may be required to prevent this pressure from driving Canadian forest management practices downwards:

Governments are increasingly reluctant to maintain or enforce effective regulatory standards to protect environmental values. This international "race to the bottom" in environmental protection has been caused, in part, by trade and investment agreements and the faster flow of investment capital across borders. As a result, Canadian

environmental and community groups have been forced to turn to alternative mechanisms to achieve protection of environmental values.

Recent years have seen a dramatic increase in the use of these alternative mechanisms to influence forest practices and protection of non-timber values in our forests. Market campaigns are one of the most powerful of these alternative mechanisms, and are rapidly becoming a focal point for the environmental movement (Global Forestwatch, 2004).

We consider, then, to what extent NAFTA and the WTO specifically address environmental issues and to what extent conflict might arise.

6.3 Addressing Environmental Issues in NAFTA and WTO

We first note that both agreements recognize the importance of ecological and social benefits in addition to economic benefits in their preambles. Sustainable development, environmental protection and enforcement are objectives of NAFTA, while the GATT Agreements establishing the WTO also acknowledge the objectives of sustainable development, and that members seek to both protect and preserve the environment. Neither agreement singles out forest products individually.

The main difference between the agreements is that a separate environmental agreement, the North American Agreement on Environmental Cooperation (NAAEC), was developed at the same time as NAFTA. No such agreement exists in GATT. NAAEC serves several purposes. It provides a forum for regular meetings between members on environmental issues. It encourages the harmonization of standards and does not allow members to lower their standards. It also established an independent body, the Commission for Environmental Cooperation (CEC), to monitor member's compliance with their own domestic environmental laws. The Commission is also meant to serve as an advisory body on both the environmental impact of proposed trade laws as well as serve as a repository of environmental information. The Commission can hear complaints regarding lack of compliance from private citizens and NGO's as well as other member governments. If the complaints are warranted, the Commission is limited to preparing a factual record of the complaint that may or may not be made public. Member governments can bring complaints against the other members and, if successful, fines can be assessed against the non-compliant member through either financial assessments or trade sanctions (although Canada is excluded from such fines) (GAO, 2001).

The WTO does have a process for ongoing negotiations of environmental issues, the Committee on Trade and the Environment (CTE). It is through this committee that WTO members are addressing the Doha Mandates in which members agreed to negotiations in the next round over the relationship between trade and environmental issues.³² As part of the negotiations members agreed to specifically discuss the relationship between existing WTO rules and trade obligations found in existing MEA's.³³

6.3.1 Allowing National Measures to Address Environmental Issues

We earlier noted that both agreements contain sets of rules that permit the adoption of environmental measures. In addition, similar rules govern the treatment of

investments under NAFTA.³⁴ In terms of measures taken in response to international agreements, under NAFTA, obligations under a MEA can explicitly take precedence over NAFTA obligations.³⁵ There is no such clause in the WTO Agreement, although there have been no conflicts between WTO and MEA obligations yet. However, it is felt that if the use of trade restrictions as an instrument of implementation of MEA's grows, the potential for conflict may emerge where a country is a member of WTO but not an MEA (so that trade restrictions are challenged under GATT rules). In the Doha Round, the relationship between trade obligations in existing MEA's and the WTO is being addressed and whether GATT obligations should prevail if such a conflict does emerge.³⁶

6.3.2 Process and Product Distinctions

We noted earlier that the rules covering the developments of standards do not permit discrimination between products based on the production method unless there are differences in the characteristics incorporated into the product. WTO members agree that if product characteristics are distinct and cause environmental harm then their imports can be restricted, but there are differences in opinions between members as to whether the agreement covers non-product related process and production-related methods (PPM's) where the production method has no impact on the product (Hirsch, 2000). This is important because many eco-labeling systems focus on the method of production to identify environmentally preferred methods for producing identical products. While voluntary private labelling systems are allowed, so long as they are not required, mandatory requirements are not, and some ENGO's feel that this has impeded the use of certification as a tool to help achieve better forest management practices (Sizer et al., 1999). Indeed some ENGO's feel that mandatory rules on eco-labeling, so long as they are not discriminatory, should apply (Hirsch, 2000). ENGO's have argued that these WTO restrictions means that countries cannot enact regulations to restrict access to their markets if they feel the good was produced in an environmentally damaging manner (if there are no physical differences between the product and similar products), thereby restricting the use of certification as an instrument.

The issue of labeling for environmental purposes is also being discussed (but not as part of the negotiations mandate) as part of the group of trade and environment issues under Doha round, but member countries remain far apart, with many viewing it as a potential barrier to market access and preferring to keep the discussion within the general context of discussions around the rules governing standards (ICSTD, 2003). Trade rules regarding labeling have not acted as an impediment to certification in Canada. Certification has grown rapidly despite its voluntary nature and trade agreements do not appear to have impeded its adoption. Indeed, at least in terms of commercial forest operations, Canada has adopted certification more quickly than the US. There are more forests certified under the American standard, SFI, in Canada than the US (Abusow, 2004).

6.4 Linking Trade to Environmental Issues

We noted earlier that ENGO's and others have also raised concerns that trade agreements might create a regulatory chill that could preclude member governments from adopting more stringent environmental regulation. One of the examples commonly cited is that of NAFTA's Chapter 11 governing the treatment of investments (see, for example, Cosbey, 2003). Here the argument is that member states might be precluded from adopting environmentally beneficial policies in fear of being sued by foreign investors. There is no evidence of this yet and, in fact, of the disputes brought to date under Chapter 11, the two cases involving forestry concerned policies developed in response to the softwood lumber dispute. In the first case, a US lumber producer with mills in Canada (Pope & Talbot) sued Canada over what it claimed was the discriminatory application of softwood lumber quotas during the Softwood Lumber Agreement (the claim failed on its most important points). In the second case, a Canadian company (Canfor) is currently suing the US government over the application of countervailing and anti-dumping duties in the most recent round of the trade dispute (the claim has yet to be heard but has proceeded to the stage of formal submissions).

Instead, trade has provided an avenue by which ENGO's have raised environmental issues. ENGO's have used various institutions within the trade regime to call attention to forest practices within Canada. For example, the Commission on Environmental Cooperation (CEC) under NAFTA has heard several complaints regarding Canada's failure to comply with its own laws: most of these have involved the impact of logging practices and other development on fish habitat and migratory and endangered species, all federal responsibilities. In the past, these complaints have focused on specific incidents, rather than general policies or legislation.³⁷ In addition, at the request of a US senator, the US Fish and Wildlife Service conducted a study to see whether Canadian logging practices were threatening several transboundary endangered species and came to the conclusion that the evidence suggested that they were not (and that other factors posed a greater threat).³⁸ ENGO's both within Canada and outside Canada have also used the softwood lumber trade dispute to press concerns about Canadian forest management practices. They have attempted to characterize Canadian harvest rates as unsustainable, that environmental regulations are laxer than those found on federal lands in the US, and that these differences should be recognized as subsidies (see Sizer *et al.*, 1999; and Chase & Kennedy, 2002). More recently, aboriginal groups within Canada have sought to link their land and treaty claims to the trade dispute as well, arguing that ignoring their rights also constitutes a subsidy (since forest sector firms are avoiding payments that should be made to local indigenous communities and the forgone payments constitute a subsidy).

6.5 Evolving Regimes

We now turn to consideration of how the regime is evolving. Some of the major forces at work that can have a significant influence on Canadian forest management policies are policies that will be adopted in the near future in response to the outcome

of the current trade dispute before the US and in the long run the increasing attention paid to environmental issues within the trade regime.

The most important determinant of Canadian forest management policies to be adopted and utilization of Canadian forests in the short-term continues to be the impact of the resolution of the current round in the softwood lumber dispute. Resolution of the dispute through either of the NAFTA or WTO processes will prove difficult. A reversal of the duties under NAFTA would mean that the U.S. had not properly applied its trade laws; the U.S. would be free to simply rewrite those laws and start over. The WTO dispute process can take several years and even at the end, after all appeals have been exhausted, the offending trade restrictions may not necessarily be eliminated and there is no mechanism by which any excess duties may be refunded. Therefore, the outcome is likely to be a negotiated settlement.

Nelson and Vertinsky (2004) show how difficult it is to reach consensus, as the economic circumstances created by the trade restraints (and proposed solutions) affect firms within provinces differently, based upon the nature of wood supply and product mix. However, there are strong political pressures within Canada to reach a negotiated settlement (such as the SLA). Since protectionist trade concerns are driving the case, however, and given the strength of the US timber lobby, the outcome will likely involve some form of restriction on Canadian lumber shipments (as has been the pattern to date). Depending upon the form this restriction takes (e.g. a border tax or volume restriction), it may reduce the value of timber within Canada, reducing incentives for more intensive management (one possible strategy contemplated under SFM) and in general leading to a reduction in the funds available for long term investment in enhancing the resource. Furthermore, if the agreement again takes the form of a short-term agreement, it will merely perpetuate the uncertainty for forest product firms, reducing further the incentives to invest in new equipment or new technologies.

There is also pressure to harmonize Canadian forest management policies with American policies. U.S. CVD duties have been assessed primarily based on allegations about provincial stumpage policies, but American timber lobbies have also complained about other Canadian forest management policies (these include long-standing features like harvesting and utilization requirements, appurtenancy which requires the operation of processing facilities in conjunction with a timber tenure, the long-term renewable nature of most Canadian timber tenures, and log export restrictions). The US and Canadian governments have discussed the possible development of a policy framework in which, under a negotiated agreement, Canadian provinces might be able to escape US duties by adopting new forest management policies (e.g. removing appurtenancy requirements and putting more timber up for sale through timber auctions). Harmonization (e.g. moving to market pricing) and market integration (e.g. removal of log export restrictions) can therefore proceed through US trade pressure that focuses on differences in selected Canadian forest management institutions, policies and practices. Harmonization may even take place through the conscious alignment of Canadian policies with US policies by Canadian policy-makers in order to reduce trade irritants. However, while these might lead to similar rules or approaches in managing both Canadian and US forests, this

approach does not take into account significant environmental and institutional differences and pressures in Canada to retain sovereignty.³⁹

Trade rules can also change and clearly environmental issues are playing a larger role in trade discussions (indeed, Canada along with other countries are now preparing environmental assessments as part of trade negotiations (DFAIT, 2003)). Within the WTO, the discussion of environmental issues within the Doha round negotiations, as well as the success of the US in enacting unilateral restrictions on imports in the shrimp-turtle dispute, suggest a greater receptivity to the idea of environmental considerations as a legitimate motive for trade-restrictive measures.⁴⁰ The developed countries, principally the EU and the US, have indicated their interest in incorporating environmental considerations into trade (Oxley & Osborne, 2002). However, change in the trade regime happens slowly as countries face domestic pressure and resistance when modifying trade rules.⁴¹

Change happens even more slowly when it comes to developing MEA's. Here there is even greater resistance to reaching agreements that require any kind of binding obligations on participants as the domestic costs typically are more obvious and therefore seem larger than the environmental benefits that are more widely diffused (and more difficult to quantify). However, the agreements that are reached do help provide the basis for further actions through legitimization of norms and clearer definition of problems to be addressed. This has been the case with biodiversity conservation and may in the future be the case with forest carbon sequestration to address climate change.

The main way in which action has proceeded has been through voluntary efforts. Certification has clearly entered the mainstream especially within Canada. Certification has placed pressure (through concerns over market access) on countries to improve environmental outcomes (in some sense a "competition" for virtue). The inability to develop an international consensus on whether or not this approach can be incorporated into trade rules does not appear to have slowed adoption or dissemination of this approach. While certification may not be sufficient (or happen quickly enough) to satisfy some ENGO's, it did help in building a consensus within countries to move towards SFM where there are institutions capable of ensuring effective enforcement. The certification processes mobilize international ENGO's offering them instruments to exert pressure on industry through market action. Indeed, US ENGO's have created and funded Canadian ENGO's to advance their positions regarding Canadian forest management practices and land use decisions (Bernstein & Cashore, 2000).

Within certification systems, the presence of a "green" certification system like the FSC helps maintain "competitive pressure" leading to an upward shift in values. Indeed, the FSC considers its approach as a way to generally lift all government standards (Cashore *et al.*, 2003, Meidinger, 1997). The FSC process also explicitly considers harmonization of its regional standards with one another as a way to raise those standards if they are perceived as too low or lax (FSC, 2004a).

There is also another effect of certification. We noted earlier that the provision of information and public scrutiny could be a source of compliance. Simply paying attention to environmental issues and raising their prominence can help mobilize

political support and create a framework in which these issues matter. International NGO's both help disseminate information and articulate norms that help advance the global debate. The Forest Stewardship Council, FSC, for example, is articulating and promoting a common understanding of what good forestry is one of three main goals of its initiatives in developing standards for the boreal forest in Canada (FSC, 2004b). By helping identify what it believes are the critical components of sustainable forest management, it helps ensure that other certification systems pay attention to these components as well.

Voluntary efforts are not only focused on certification. ENGO's are also attempting to develop a consensus on large-scale land use changes within Canada. Under the Canadian Boreal Framework, a coalition of resource companies, several First Nations groups, and some prominent ENGO's have developed a plan that calls for greatly increasing the protected area in Canada's boreal and changing forest management practices on the portion that would remain available for commercial timber operations. What is striking about such plans is that they do not involve any government representatives at the provincial or national level; rather, they are an attempt to develop a consensus among business groups, local communities, and NGO's that will then provide the basis for government implementation. A key component of the framework is the establishment of protected areas within half of the boreal region, and the use of certification (specifically the FSC) to guide harvesting practices on the remaining areas open for commercial forest activity. One of the hopes expressed by ENGO participants is that it will facilitate efforts elsewhere:

Josh Reichert, environment director at The Pew Charitable Trusts which helped establish the Canadian Boreal Initiative and set the Framework discussions in motion added, "Not only is this the largest forest and wetlands conservation initiative ever proposed, it is also a whole new approach to balancing conservation and economic development that could provide a model for protecting other globally important ecosystems like the Amazon rainforest and the Russian Taiga." (US Newswire, 2004)

This attempt to develop a new collaborative forum involving NGO's, industry and government is one way to respond to what are perceived as more formal trade and environmental rules that are lagging behind public demand for changes.

Indeed, one approach to resolving environmental issues that might arise through trade has been through developing agreements on environmental standards (thereby eliminating the possibility of a race to a bottom dynamics contemplated by some ENGO's). Bhagwati (1996) discusses the positive role private voluntary actions may play in establishing common standards, especially where these schemes work to develop local political support within different countries. This can also happen through the development of common values or norms. If it is the case that a consensus can be developed, then, this raises the possibility that the reliance on social norms to sanction inappropriate or unacceptable behaviour may be able to play an effective role in establishing and enforcing agreement on how to address some of the more difficult environmental issues. This also permits the possibility of harmonization achieved through the voluntary adoption of common standards.

The problem with organizing markets and developing a consensus around voluntary action to support environmentally preferred goods is that they are vulnerable to manipulation and false claims. Formal private systems backed by

specific market and social actions achieve the desired results faster. Indeed, the Canadian Boreal Framework explicitly notes that the majority of industrial goods produced from the boreal region, both forest products and oil and gas, are destined for US markets (US Newswire, 2004) and that market boycotts may be required to compel firms to change practices (Hamilton, 2002a). ENGO's have argued that the domestic certification systems employed by Canadian firms (e.g. CSA and SFI) may not lead to a significant difference in practices, and that therefore a particular certification system, one with ENGO support such as FSC, is necessary to achieve the appropriate environmental objectives (FERN, 2003). The problem is that even certification may not be immune to rent-seeking behaviour where domestic industries may use it as a means to advance traditional protectionist measures by arguing that foreign competitors are practicing unsustainable forest management (see Chase & Kennedy, 2002).

More generally, there are concerns about requiring a particular system that involves certain norms and values that may not be held by all parties. Indeed, coercive harmonization appears to be at odds with the development of a genuine consensus. Meidinger (2001) suggests that ethically there is a fundamental limitation to the use of certification if it cannot garner sufficient local support especially in developing countries.⁴² Bhagwati (1996) suggests that the preferential route may be mutual recognition pacts, and indeed we are seeing this emerge as domestic certification systems evolve (most noticeably as the PEFC has moved towards an international framework for recognizing individual domestic systems).⁴³ Indeed, if voluntary efforts are going to develop new forms of governance, what emerges should be transparent and accountable.

7. CONCLUSIONS

The ways in which the international forest regime shapes and interacts with Canadian policy-making processes is complex, as it moves through multiple layers, filtered by national and provincial policy-making processes, interacting with a number of different factors-foreign government policies, international and domestic NGO's, and public opinion.

Canadian forest management has changed significantly over the past twenty years. Domestic legislation and policies have had to respond to a rapidly changing international regime in which trade and increasingly environmental issues play a greater role. Several observers have felt that Canada has made more significant changes in its forest management policies over the past two decades than the US in part because of its dependence on export markets (Beckley, Shindler, & Finley, 2003; Duinker *et al.*, 2003). It is clear that within Canada the Federal role in forestry must grow, despite constitutional and political constraints, in large part due to the commitments made in the international regime. While these commitments may not directly affect provincial policies, they increasingly require provinces to adopt policies or make choices based on the implementation of international commitments, such as the Kyoto Protocol and the CBD.

The main impact on the Canadian industry to date has been through the impacts in markets created by US trade pressure and increases in regulatory costs resulting from international market pressures to protect the environment. Reduced prices and higher regulatory costs have simply provided the industry with greater incentives to rationalize production further and become even more competitive, although this has come at a high cost in terms of forest communities sustainability.

The main movement toward defining and implementing sustainable forest management strategies has been through the use of C&I developed through various international processes and certification systems. If measurement of movement toward SFM is possible then a focus on outcomes may both motivate progress and promote efficiency in achieving it. However, there is a great deal of scientific uncertainty around many of the criteria that have been developed and a significant effort is required to gather and assess the data. As Lackey (1999) shows, even if there is a consensus that we want SFM, the conflict surrounding ecosystem management depends on the underlying assertions and values that differ significantly between those proponents that envision ecosystem management as a continuation (with some modification of approaches and emphasis on different goods) of existing multiple-use management practices with those that see it as a fundamental shift in the way that we approach society and current lifestyles with their emphasis on material goods. The question of who decides and what weight should be given to public participation at different levels is a difficult one and still unresolved in Canada and is made even more difficult by changing norms over time.⁴⁴ The ambiguity and uncertainty as to what constitutes SFM and what weight should be given to different "publics" make it difficult for many countries to commit to specific obligations for many of the values embedded in SFM. Indeed, it is agreed that local level indicators are required to identify SFM (Hirsh, 2000), yet many of the criteria involve environmental values that have international dimensions. The ambiguity in the international regime on how to reconcile existing government policies with new SFM prescriptions matches the same uncertainty found within countries.

Finally, the introduction of certification has opened up the policy process to a wider range of groups within Canada than have traditionally participated in forest policy planning by incorporating to varying degrees (depending upon the system) a role for public participation and the promotion of social and environmental values. Even here we note the importance of trade, however. Because of Canadian forest products firms' reliance on access to export markets, international ENGO's have been able to press for changes in Canadian policies through raising concerns about market access. In some cases, even though these ENGO's do not have any formal standing in the trade agreements or their associated processes, these agreements have provided entry points where the ENGO's have been able to introduce their ideas and arguments into Canadian policy processes. Given the increasing attention paid to environmental issues, and the environmental scrutiny Canadian forests receive, Canadian forest policies have and will continue to incorporate a number of important ideas and values developed in international environmental agreements. These ideas and values will also be reinforced through certification systems that either incorporate the objectives

of those agreements or, in the case of ENGO-supported systems, attempt to implement direct changes in policies and practices.

NOTES

¹ While we consider how the international regime is filtered through national policy-making processes, and how NGO's influence this, we do not cover the role governments and NGO's play in developing these international agreements in similar detail. This is an area in which extensive research has been conducted and literature is available (for the interaction between international policies and national policy-making processes in Canada; see, for example, Dwivedi, Kyba, Stoeet & Tiessen (2001); for Canadian forestry in particular Howlett (2001); for the role of NGO's in international policy-making in general see, Oberthuür, Buck, Müller, Pfahl, Tarasofsky, Werksman & Palmer (2002), and Porter *et al.* (2000); and for the emergence of these agreements in general see Bernauer (1995); Sprinz & Vaahtoranta (1994); and Young (2002)).

² When the provinces and federal government can reach a consensus, however, the federal government is quite capable of implementing substantive policy changes (Feigenbaum *et al.* 1993: 73-74).

³ Standards have been used to describe voluntary arrangements in which a producer can choose but is not required to meet the standard while regulations are those requirements that are mandatory. Examples of standards include building codes (where products may be required to meet specified performance levels if used for certain purposes).

⁴ Gandolfo (1998) notes that there are a variety of constituencies that have to be considered in understanding when such protectionism will be successful, ranging from interest groups (including firms and consumers), politicians, and bureaucrats.

⁵ There are also a host of government policies that will affect macroeconomic factors such as exchange rates, workforce skills, and capital availability that can influence the relative competitiveness of an industry, but these policies are generally applied more widely and not targeted towards a specific industry or group of firms.

⁶ These may even include the formation of explicit cartels of countries, such as OPEC.

⁷ Magee, Brock, and Young (1989) describe this as the "principle of optimal obfuscation."

⁸ In the WTO this consists of three separate agreements found within the first annex to the WTO framework: the Agreement on Subsidies and Countervailing Measures; the Agreement on Safeguard Measures; and the Agreement on the Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 (addressing anti-dumping). Chapter 19 within NAFTA permits countries to employ their own trade remedy measures while respecting their GATT obligations.

⁹ These two sets are contained in the Agreement on Technical Barriers to Trade (TBT) that addresses the development of technical standards and regulations and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). The TBT Agreement permits mandatory labelling requirements and regulations based on differences in product characteristics (i.e. structural properties of different lumber species, percentage of recycled material contained in newsprint) but does not permit discrimination based upon process or production methods. The SPS Agreement does permit discrimination against products from different countries based on risk. Again similar measures are found within NAFTA (Chapters 9 and 7 respectively). In addition, Article XX of the WTO Agreement also permits exceptions to the general GATT obligations where environmental measures are allowed if they are necessary to conserve scarce natural resources, or protect human, animal and plant life, but again these measures must be the least restrictive possible and required to obtain the results. A similar exception is also found in NAFTA (Chapter 21, Article 2101).

¹⁰ Under NAFTA, the offending party is required to bring its measures into compliance with its obligations (so if countervailing measures are found not to be justified they must be dropped). Under the WTO, an offending party can bring its measures into compliance; alternatively, it may choose not to do so and offer equivalent financial compensation or concessions to the aggrieved party; or if it fails to take any actions, the aggrieved party has the right to establish its own measures (i.e. import duties) or withdrawals of concessions. In terms of panel members, under NAFTA panelists are drawn from countries that are party to the dispute; under the WTO, panelists cannot be drawn from parties to the dispute.

¹¹ These studies were motivated by efforts to liberalize tariffs for forest products through an initiative

under APEC and a topic for discussion at WTO talks in Seattle in 1999.

¹² An interagency study was also carried out by the US government and found similar results (United States Trade Representative and the Council on Environmental Quality, 1999). Both studies used partial equilibrium models.

¹³ Recent examples of the use of SPS standards directed at forest products include increasing requirements for kiln-dried softwood used for palleting and packaging by a number of countries. The forest products industry in New Zealand complains of increasing frustration faced in meeting building standards that discriminate against New Zealand species, a complaint echoed by the US forest products industry (NZ Institute of Economic Research, 2000; United States Government 2003).

¹⁴ This is supported by evidence that suggests tariffs on manufactured pulp and paper products post Uruguay round are still high in many developing countries; examples include Brazil, China, and Indonesia (Bacchetta & Bora, 2001).

¹⁵ The SLA, by establishing a tariff rate quota (in which fixed volumes could enter duty-free but shipments above that volume were taxed at a high rate) led to a wedge between Canadian and US prices over the course of the agreement, leading to what was called the "Canadian discount" where the amount by which Canadian prices would be lower would depend upon overall demand for lumber.

¹⁶ For example, an agreement that has a forestry-related dimension but do not affect forest management is the Agreement on the Long Range Transport of Air Pollutants (or LRTAP) to which Canada and the US are party. Although it is concerned with the effect of acid precipitation on forests in Europe and North America, it does not address the management of forests, nor does it affect forest product markets. An example of an agreement that does involve forestry is the Agreement for the conservation of the Biodiversity and Protection of priority Forest Areas in Central America (CAA), signed in 1992. However, it is not relevant to Canada since it is a regional agreement and Canada is not a signatory.

¹⁷ Developed countries have focused on issues of the environmental dimensions of sustainable development, and developing countries, while acknowledging the importance of environmental issues, have emphasized ideas of social responsibility and the need for the transfer of expertise and technology from developed countries to help improve the economic well being of their citizens.

¹⁸ In addition to Canada, these include Argentina, Australia, Chile, China, Japan, Korea, Mexico, New Zealand, the Russian Federation, United States, and Uruguay. The Helsinki Process, covering forests in European countries, started in 1990 and culminated in a series of criteria and indicators for SFM that were published in 1998. Those C&I subsequently became the basis for what would be required by national certification systems under the mutual recognition system under the Program for the Endorsement of Forest Certification systems (PEFC) (an umbrella system that has currently endorsed thirteen national standards, all European-based).

¹⁹ Saskatchewan has developed a provincial biodiversity strategy (Natural Resources Canada 2003) while Quebec has prepared a draft strategy (see http://www.menv.gouv.qc.ca/biodiversite/strateg_02-07-en/). Other provinces are incorporating biodiversity objectives into their planning processes or adapting existing programs and developing monitoring systems. Examples include Alberta (<http://www.abmp.arc.ab.ca/Overview.htm>) and Manitoba (<http://www.gov.mb.ca/conservation/wildlife/managing/biodiversity.html>).

²⁰ An update of the C&I is scheduled to be published in 2005.

²¹ It is interesting to note that a prominent official at a Canadian ENGO in 1989 noted that "we have ten years or less left to protect at least 12 per cent of Canada in a wild state...[t]his is going to take considerably more political vision than currently experienced in this country." Hummel (1989:272). By 1996 British Columbia had already protected over 9%, reaching 12% by 2001 (Pedersen 1996; Scudder 2003).

²² This includes the development of higher-level plans (as in BC) to the use of environmental assessment procedures (in Ontario, Manitoba, and Saskatchewan).

²³ The International Labor Organization (ILO), a UN agency, has developed a document, Convention 169, that addresses the recognition of indigenous rights but Canada is not a signatory.

²⁴ Principle 3 of the Criteria within the FSC system has evolved to require the willing participation of local aboriginal groups as a condition of meeting the criteria, and aboriginal groups have endorsed the FSC system as preferred over other systems (Collier, Parfitt, & Woollard, 2002).

²⁵ This will take place through treaty settlements in British Columbia and in resolving treaty and land claims elsewhere in Canada.

²⁶ The UN through its Global Compact is promoting the idea of CSR more broadly by developing principles and norms that companies would then internalize in their respective businesses. The nine principles address human rights, labour standards, and environmental responsibility (Pitts, 2004).

²⁷ There are also complaints over perceived inconsistencies between standards developed in different regions, despite similar forest types, as was the case for the standards developed for the Maritimes in eastern Canada versus those developed for the northeastern US (McDermott & Hoberg, 2003).

²⁸ The NAFTA Commission for Economic Cooperation suggested that this is the reason why pre-NAFTA predictions of environmental damage from the trade agreement have failed to materialize (CEC 2001).

²⁹ DeSombre gives an example of the U.S. endangered species law that provided the motivation for the efforts that resulted in CITES. There was no domestic industry involved in trading endangered species, and the US was unable to achieve as much as ENGO's wanted from Asian countries. More successful have been efforts at marine mammal and sea turtle protection, where there existed a domestic fishing fleet that would benefit from either restricted access to US fishing waters by foreign fleets or by restricted imports into the US and would support ENGO's efforts.

³⁰ This view is not universally shared. Some authors have argued that the development of substitute products in the US, the largest producer and consumer of ozone-depleting chemicals, meant that domestic producers benefited from the trade restrictions and that the costs faced by US citizens were such that the US would have acted unilaterally. Therefore, the agreement was not necessarily needed to achieve the reductions (Barrett, 1994).

³¹ It should be noted that the most prominent dispute involving environmental issues and trade under the WTO has involved the application of trade measures by the U.S. under Article XX to restrict seafood imports from countries not deemed to be undertaking sufficient measures to protect endangered turtles (otherwise known as the shrimp-turtle dispute). In general, the most recent interpretation has let stand US laws restricting imports from countries whose fishers do not make efforts to reduce sea turtle bycatch (CTE, 2002).

³² Strong support for inclusion came from the EC, Japan, Norway and Switzerland. The majority of other countries resisted inclusion of environmental issues in the Doha Round, with developing countries fearing that environmental negotiations might simply expand the range of environmental measures that could potentially be used as NTB's (ICTSD, 2003).

³³ Members also agreed to negotiations over developing better linkages with MEA secretariats, as well as information sharing and observer status, and the elimination of tariff and NTB to environmental goods and services.

³⁴ For example, Article 1106:6 is similar to Article XX under the WTO, while another article in chapter 11 states that nothing in the agreement should be construed as preventing countries from enacting environmental measures governing investment activities (Article 1114:1).

³⁵ Article 104 lists the specific MEA's to which members are party to and makes a provision for the addition of future MEA's.

³⁶ Current discussions are narrowly confined to examining existing agreements to see whether any clarification is required, although some countries (principally the European countries) argue that is should expand to the consideration of more general trade measures required to achieve environmental objectives (ICTSD, 2003).

³⁷ For example, the factual record prepared for the impact of logging practices in BC on fish habitat looked only at a cut block on southern Vancouver Island while the initial investigation of logging of migratory bird habitat in Ontario revolved around whether there was any evidence of actual nests destroyed (rather than an estimate based on expected species density and area harvested). There was a subsequent complaint initiated that is in the process of being reviewed.

³⁸ The report looked at marbled murrelets, grizzly bears, woodland caribou, and Bull Trout. It noted that there was no evidence that marbled murrelets migrated across the border so that they could not be assessed (GAO, 2002).

³⁹ It is not clear that the US approach to forest management is considered any more sustainable and, indeed, concerns have been raised over the years about whether or not an appropriate balance has been struck between environmental, social, and economic concerns and whether or not the primary mechanism used to grant access to timber-timber auctions are the most appropriate means to achieve public objectives (on the first point see Floyd, D., Alexander, K., Burley, C., Cooper, A., DuFault, A., Gorte, R., Haines, S., Hronek, B., Oliver, C. & E. Shepard, 1999; on the second Hamilton, 2002b; Saunders, 2003; and Taxpayers

for Common Sense, 2001).

⁴⁰ See Fn. 30.

⁴¹ Weintraub (2003) suggests that in the US foreign policy considerations are currently driving US trade negotiations, especially in choices to pursue bilateral agreements with selected countries rather than efforts to develop a consensus within the WTO.

⁴² The relative unevenness in terms of certified forests by international system across different countries, and the general lack of certification in developing countries to date, raises concerns about embedding any one particular certification system such as the FSC as a requirement of market access.

⁴³ In fact, both the CSA and SFI are in the process of applying to the PEFC system.

⁴⁴ Indeed, the same question is still unresolved in terms of US public forestland management (see Floyd *et al.* 1999).

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